Yucheng Zhang

Email: yz90@illinois.edu Mob: +1 (217) 819-1275 Homepage Google Scholar

Research interests: humanoid loco-manipulation, dexterous manipulation, human-object interaction

EDUCATION

University of Illinois Urbana-Champaign **Urbana, IL, USA**
Master of Science in Computer Science *Sep. 2025 – May 2027 (expected)*

University of Illinois Urbana-Champaign **Urbana, IL, USA**
Bachelor of Science in Computer Engineering *Sep. 2021 – Jun. 2025*

- GPA: 3.97/4.0

Zhejiang University – University of Illinois Urbana-Champaign Institute **Zhejiang, China**
Bachelor of Engineering in Electrical and Computer Engineering *Sep. 2021 – Jun. 2025*

- GPA: 3.78/4.0

PUBLICATIONS

- **Yucheng Zhang***, Sirui Xu*, Jinhong Li*, Liuyu Bian* et al., "InterMimicGen: Scaling Humanoid Loco-Manipulation Through Self-Evolving Motion Imitation", *Under review at ICLR 2027* (arXiv:2610.06850)
- Zimu Zhang*, **Yucheng Zhang*** et al., "HandX: Scaling Bimanual Motion and Interaction Generation", *CVPR 2026* (arXiv:2603.28766)
- Sirui Xu*, Dongting Li*, **Yucheng Zhang*** et al., "InterAct: Advancing Large-Scale Versatile 3D Human-Object Interaction Generation", *CVPR 2025* (arXiv:2509.09555)
- Enxin Song*, Wenhao Chai*, Guanhong Wang*, **Yucheng Zhang** et al., "MovieChat: From Dense Token to Sparse Memory for Long Video Understanding", *CVPR 2024* (arXiv:2307.16449)

* equal contribution

RESEARCH EXPERIENCE

Scalable Humanoid Loco-Manipulation via Self-Evolving Motion Imitation | Research Assistant Feb. 2026 – Present
Advisors: Yu-Xiong Wang and Liang-Yan Gui (UIUC)

- Proposed InterMimicGen, a framework that scales sparse human-object motion capture into large-scale, physically executable references for dexterous humanoid loco-manipulation.
- Built an interaction-preserving retargeting pipeline that maps human-object motion to multiple robot embodiments while preserving body-object spatial relations and finger contacts.
- Developed RL-based motion tracking with customized reward design, trained specialist policies, and co-developed the generalist tracker.
- Implemented the self-evolving loop that co-evolves the motion set and policy.
- Participated in real-world deployment on a Unitree G1 humanoid with Inspire dexterous hands, validating sim-to-real transfer of the learned skills.
- Paper, "InterMimicGen: Scaling Humanoid Loco-Manipulation Through Self-Evolving Motion Imitation", under review at ICLR 2027.

Bimanual Motion and Interaction Generation | Research Assistant Apr. 2025 – Jan. 2026
Advisors: Yu-Xiong Wang and Liang-Yan Gui (UIUC)

- Proposed a unified foundation spanning data, annotation and evaluation for bimanual hand motion.
- Built a common representation across heterogeneous hand-motion datasets and designed a motion-intensity criterion to retain dynamic two-hand interactions.
- Co-designed the kinematic-event-based annotation pipeline; contributed to the diffusion-based generator and the scaling experiments.
- Designed hand-specific evaluation, introducing intra- and inter-hand contact metrics, and developed a unified evaluation pipeline for both diffusion and autoregressive models.
- Developed a data interface for running inference in physics simulators.

- Paper, "HandX: Scaling Bimanual Motion and Interaction Generation", accepted at CVPR 2026.

Large-Scale 3D Human-Object Interaction Generation | Research Assistant Feb. 2024 – Nov. 2024

Advisors: Yu-Xiong Wang and Liang-Yan Gui (UIUC)

- Proposed a new method for representing human poses with a small number of markers.
- Built an annotation collection website on Amazon Mechanical Turk to collect detailed annotations for a dataset with 22.94 hours of human-object interaction data.
- Processed data, including splitting motion sequences with respect to motion changes by measuring Posecode change and implementing GPT-based annotation and augmentation.
- Evaluated physical plausibility (penetration) and benchmarked motion prediction on the dataset.
- Paper, "InterAct: Advancing Large-Scale Versatile 3D Human-Object Interaction Generation", accepted at CVPR 2025.

Long Video Understanding | Research Assistant Jul. 2023 – Dec. 2023

Advisor: Gaoang Wang (ZJU-UIUC Institute)

- Developed a new memory management method for long video understanding that reduces computational load and memory cost by storing short-term memory and selectively storing long-term memory according to the similarity between frames.
- Built a dataset of 1,000 long videos and manually annotated them with summaries and Q&A.
- Paper, "MovieChat: From Dense Token to Sparse Memory for Long Video Understanding", accepted at CVPR 2024.

ACADEMIC SERVICE

Reviewer: BMVC 2026, ICPR 2026

AWARDS AND HONORS

- **Gold Medal**, 46th ICPC Asia Regional Contest Jinan Site (National) (top 10%) 2021
- Silver Medal, 2021 China Collegiate Programming Contest, Weihai Site (National) 2021
- Dean's List (ZJUI) 2021 – 2022
- Dean's List (UIUC) 2023 – 2024

TEACHING EXPERIENCE

CS 446 / ECE 449 Machine Learning Teaching Assistant at UIUC Fall 2026

- Design homework assignments and exams.
- Host weekly office hours.
- Answer student questions on the online course forum.

CS 101 Intro Computing: Engrg & Sci Teaching Assistant at UIUC Fall 2025 & Spring 2026

- Led three weekly lab sections.
- Hosted weekly office hours and review sections.
- Reviewed quizzes, labs and homework.

MATH 285 Differential Equations & MATH 241 Calculus III Teaching Assistant at ZJUI Fall 2024 – Spring 2025

- Ran weekly discussion sections, office hours and review sections; graded homework and exams.

INDUSTRY EXPERIENCE

Apple | Advanced Manufacturing Engineering Intern Summer 2025

- Worked on an internal LLM-based project (details confidential).

TECHNICAL SKILLS

Programming: Python, C/C++, MATLAB

Frameworks and Tools: PyTorch, Isaac Gym, MuJoCo; real-robot deployment on Unitree G1